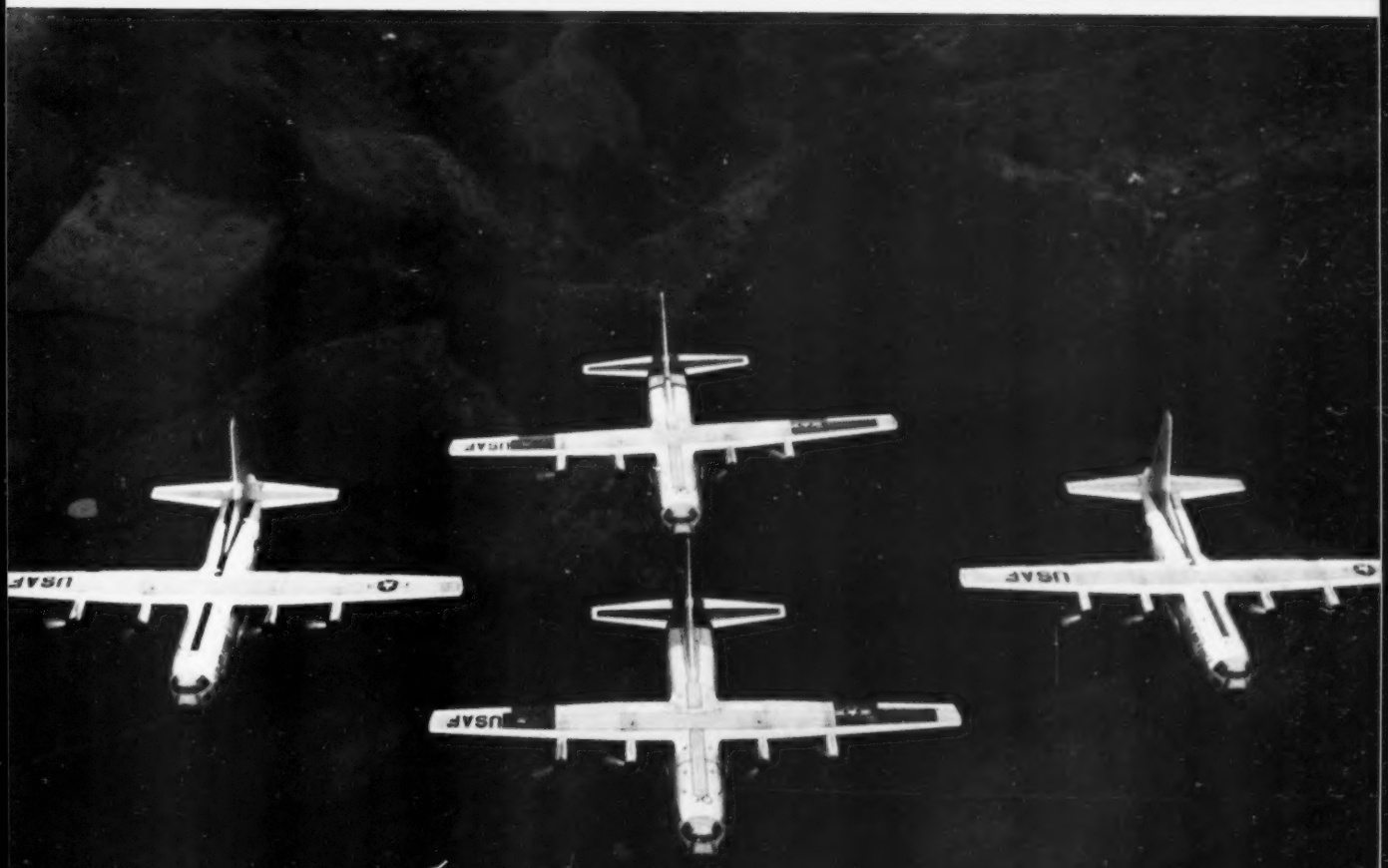
The MAC Flyer

AUGUST 1979



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The MAC Flyer

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For Greater Safety and Efficiency
in MAC Air Operations.

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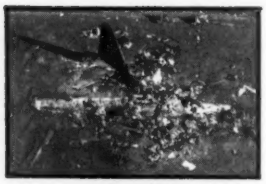

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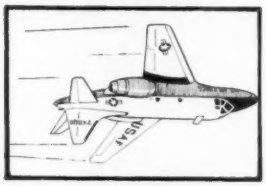

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FLYER FORUM

Skepticism

I often remember a conversation with an old friend—an airline captain who is now retired after a long and "uneventful" career. He once stated quite clearly what many of us probably know and practice, consciously or otherwise.

His philosophy—it was almost a religion to him—was that given two pilots with the same levels of flying skills, use of standard procedures and knowledge of where to find information, the one who has the best chance for a long career is the one with the keenest sense of skepticism. "Well developed skepticism," he said, "will help you live longer."

Think about it. By far the majority of problems in aviation are caused by human error. Yes, there are still mechanical problems—they can't be dismissed even today—but people remain the principal concern. That is why skepticism inevitably leads to checking and crosschecking the important facts and information, wondering whether things are always as routine as they seem. The skeptic likes to ask himself: Have we as a crew forgotten to do something? Have I? Have I shared my plan of action with the rest of the crew? Have I made my intentions clear?

Similarly, thinking of those unseen colleagues beyond the cockpit, he exercises his skepticism: Does this clearance make sense? Why is this flight plan different from usual? When did they change that identifier? Doesn't that airport weather sound like a possible wind-shear condition? Does that taxi clearance sound safe?

Above all, the fine art of skepticism will help you develop the intuitive sense of knowing when things are "not quite right." Anyone can react quickly to some unexpected emergency, but it takes a pro to see it coming before it happens—or at least to have a shared plan in case it does.

Capt W. H. Mullikin
Senior Vice President for Flight Operations
Pan American Airlines

—adapted from *Crosscheck*

Silver Anniversary for the Hercules

For 25 years the C-130 has proved its mettle by serving the Air Force in almost every conceivable configuration and mission.

Here's a question for you: What does the C-130 have in common with *Playboy* magazine? A hint: It also shares this same distinction with the Air Force Academy and *The MAC Flyer.* If you missed the June issue of the *Flyer,* or are otherwise still stumped, the answer is that *Playboy, TMF,* the Academy and the Herk *all* reached the quarter-century mark this year.

Since its first flight back in August of 1954, several generations of the Hercules family have rolled out of the Lockheed factory and into the annals of aircraft notoriety in grand style. It is at once the oldest and youngest four-engine airlifter in the Military Airlift Command fleet, and has played a variety of roles that match—and in many cases exceed—the exploits of the renowned C-47 Gooney Bird.

Although designed initially for airlifting cargo and troops as its primary mission, the first MATS Herk was an RC-130A delivered to the Air Photographic and Charting Service in June 1958. From the original A-models developed a family of B, E and H modifications which gave the C-130 capabilities for a vertiable galaxy of aerial accomplishments. Over the years, in addition to passenger and cargo hauling and photomapping, Herks have been used for missile tracking, fire fighting, hurricane hunting, fog busting,

drone launching, search and rescue, fighter and helicopter refuelling, gunship fighting, iceberg hunting, aeromedical evacuation, satellite recovery and boundary layer control research projects, to name a few. In addition, the Navy, Marines and Coast Guard have their own versions of the Herk, and C-130s are operated by some 36 countries around the globe. Military Airlift Command, probably the biggest single user, currently has over 300 C-130s in its inventory.

Herks have been on the MAC starting lineup continuously since that first A-model was delivered to the Photographic and Mapping Service. The arrival of newer editions over the years, such as an E-model (the 1,400th C-130 produced) which was delivered to Dyess AFB, Texas, in 1976, gives the Herk the distinction of being at once the oldest and newest airframe in the MAC inventory. It should be noted that although the use of C-130s in MAC remains continuous since 1957 because of its roles in various service missions such as weather recon, mapping and rescue, the airlift portion of the Herk fleet was part of TAC and PACAF during the Vietnam era.

As an airlift weapons system, the C-130's primary claim to fame has been its ability to get into and out of small, unimproved landing strips that larger cargo birds couldn't negotiate. Many times in Vietnam it saved the bacon of American and friendly forces that had been cut off or isolated from conventional sources of resupply. But the versatility of these turboprop powered mini-behemoths is also legendary, as has already been indicated. Equipped with giant skis for landing on snow and ice, they helped open up the frozen continent surrounding the south pole. According to Rear Admiral David Tyree, the Herk was "the greatest tool we've ever had for the permanent development of Antarctica."

"City of Ardmore," the first USAF C-130, still serves with the Air Force Reserve.

Armed with weaponry ranging from 7.62mm miniguns to 105mm howitzers plus searchlights, sensors, forward looking infra-red target acquisition equipment and direct view image intensification sights, the Herk became a formidable truck-killing battlewagon – the AC-130 gunship, known as "Spector."

Modified with the large whiskers or pincers of the Fulton Recovery System on its radome, and deflector wires to protect the propellers from the pickup cables, HC-130H Rescue birds could fly into and snag a line held aloft by a balloon. A person harnessed to the end of the cable on the ground could then be winched aboard after being plucked from a location otherwise inaccessible to airborne rescue craft.

Almost as dramatic, and equally exciting to see in action is the HC-130 equipped for aerial refuelling. Teamed with HH-3E, and HH-53 rescue helicopters, these Herk tankers have been instrumental in hundreds of extended overwater rescues that would not have been possible without the boosted endurance provided for the helos by multiple enroute refuelling hookups.

No account of the Herk's exploits can be concluded without a mention of its frequent use as a delivery vehicle for disaster relief supplies to victims of natural catastrophies ranging from flood and famine to droughts and earthquakes. All over the world, the Hercules has earned a well-deserved reputation as an "Angel of Mercy." Martin Caidin, the dean of America's authors on aerospace subjects, credits the C-130 with having "won more good will and friendship for the U.S. than any elaborate program . . . involving the distribution of tens of billions of dollars."

No doubt about it, in the 25 years that it has been flying, the C-130 has probably met a wider spectrum of challenges than any other flying machine around, and has effectively bridged the gap in the transition from reciprocating engines to jets. *TMF* is proud to offer a Silver Anniversary Salute to the ubiquitous Herky Bird.

You Bet Your Life

We invite you to play a game that could change your life.

Historically it's been necessary for military people to be physically fit. In earlier times, the circumstances of military life maintained high physical standards. If you marched like the Roman Legions did from Rome to Gaul (Central France), performed a nightly entrenching drill and fought an occasional battle, you'd arrive on the Seine in good physical condition—if you made it at all.

The technology of arms has changed all that. Some soldiers still walk, but many ride into battle; few sailors row boats; and airmen stopped flapping their own wings after the famous wax-and-feathers mishap. However, the need for physical conditioning hasn't diminished.

As a crewmember you need to stay fit to endure the long working hours associated with the airlift business, not to mention the possible need to evade the enemy and survive. Actually, any human is better off in good physical shape. To help you assess your physical assets, we've constructed a game called "You Bet Your Life." In short, it's a health prediction based on a minimal cross section of your life history. You can play the game at a party or in isolation. It is guaranteed to stimulate thought or conversation. Furthermore, it's a game from which you can emerge a massive winner.

How to Play

Sit down with pencil and paper, and *Table 1*. Read the definitions at the bottom of the table carefully, then begin. There is no time limit.

The vertical column on the left side of the table lists several factors which you must evaluate. For each factor read across until you come to a description that best fits you. (Feel free to interpolate.) Write the number in the top of the description block on your paper. When you have assessed all eleven factors, total your points.

Age (in years)	**2** 10 to 20	**3** 21 to 30	**4** 31 to 40	**5** 41 to 50	**7** 51 to 60	**9** 61 and over
Weight (in pounds)	**-1** Optimum -10 lbs or more	**0** Optimum+10 lbs	**2** Optimum+20 lbs	**3** Optimum +30 lbs	**5** Optimum +40 lbs	**7** Optimum +50 lbs or more
Cardiac History	**1** No known heart disease in family.	**2** 1 relative with heart disease over 60.	**3** 2 relatives over 60 with heart disease.	**4** 1 relative under 60 with heart disease.	**6** 2 relatives under 60 with heart disease.	**7** 3 relatives under 60 with heart disease.
Exercise	**1** Intensive occupational and recreational.	**2** Moderate occupational and recreational.	**3** Nil occupational and intense recreational.	**5** Nil occupational and moderate recreational.	**6** Nil occupational and light recreational.	**8** Nil.
Smoking	**0** None *Take ½ of computed points if you quit smoking less than three years ago.	**2** Cigar or pipe not inhaling.	**3** 10 cigarettes or less per day (+1 for every 15 years).	**5** 20 cigarettes per day (+1 for every 10 years).	**8** 30 cigarettes per day (+2 for every 10 years).	**12** 40 cigarettes per day (+2 for every 5 years).
Drinking (alcohol)	**0** Zero drinks (or beers) per day.	**1** 2 drinks per day.	**3** 4 drinks per day.	**5** 3 drinks per day and 5 on one weekend day.	**8** 3 drinks per day and 5 on two weekend days.	**10** 30 drinks per week.
Blood Pressure	**1** 110 upper reading.	**2** 120 upper reading.	**3** 140 upper or 90 lower.	**4** 160 upper or 100 lower.	**6** 180 upper.	**8** 200 or more upper reading.
Sex	**1** Female under 40.	Female 40 to 50.	**3** Female 60+.	**5** Male	**6** Male, 25 lbs over opt wt.	**7** Bald male, + 40 lbs over opt wt.
Resting Pulse	**0** 55 or less	**1** 60	**2** 70	**4** 80	**6** 90	**10** 100 or more
Early Mortality Penalty	**0** No family deaths under 60.	**1** 1 family death under 60.	**2** 2 family deaths under 60.	**3** 2 family deaths under 50.	**5** 2 family deaths under 50.	**7** 2 family deaths under 45.
Longevity Bonus	**0** 1 grandparent over 85.	**-1** 2 grandparents over 85.	**-2** 3 grandparents over 85.	**-3** 4 grandparents over 85.	**-4** 2 grandparents over 95.	**-5** 4 grandparents over 95.

Notes:
1. Optimum weight: consult Table 2.
2. Quality of recreational exercise.
a. Intensive—raise pulse to 190 minus your age and maintain for 30+ minutes, seven days per week (Run 1.5 miles in 9.5 min, seven days per week.)
b. moderate—same as "a.", but four days per week.
c. light—raise pulse to 120 or above and maintain for 30 minutes three days per week. (Run 1.5 miles in 12 minutes, three days per week.)
3. Occupational Exercise
a. Intense—lumberjack, infantryman
b. Moderate—manual work, i.e. carpenter
c. Light—postmen, door-to-door sales
d. Nil—administrative or sedentary position
4. Family includes mother, father, sister, brother, and grandparents.
5. If blood pressure is unknown, take three points.

Table 1 The game.

Unless you are a very unusual person, you will now have a score between five and 70. By checking *Table 3* you can get a fairly objective assessment of your health based on actuarial figures used by major life insurance companies.

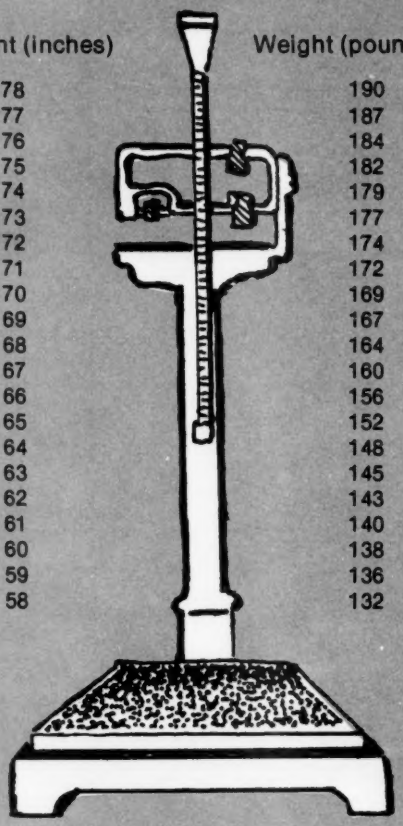
Besides a general description of your health, we can also give you a good guess as to how long you'll live. Again, insurance company figures show that if you subtract your score from 100, you'll have a good projected longevity figure. Is it surprising? Upsetting?

Checking Up

Remember, we told you that you could be a winner. The best part about this game is that you can change your score by altering the various factors in the You-Bet-Your-Life equation. Let's see how you can decrease your total score.

Table 2, optimum height/weight chart.

Height (inches)	Weight (pounds)
78	190
77	187
76	184
75	182
74	179
73	177
72	174
71	172
70	169
69	167
68	164
67	160
66	156
65	152
64	148
63	145
62	143
61	140
60	138
59	136
58	132



Age is something you can't do anything about, so naturally the older you are the less time you have left, or would have left if everything else were constant. Fortunately little else is constant, so you can stretch out the number of years remaining and enjoy them more.

Weight definitely effects your health and is a controlable variable. You have an optimum weight, and exceeding that amount puts undue stress on your body (check *Table 2*). Furthermore, being overweight interacts with other variables since the aircrewmember with aviordupois tends to exercise less, have higher blood pressure and pulse rate, and often comes from long family lines of overweight people. In this area the game is inflexible: weigh less, live longer.

Cardiac history in your family is nearly a constant; you can't pick who your natural parents are. Just because your family gives you some bad points don't dispair. You can more than counteract their input by working on the variables.

Exercise is the controllable variable that helps almost every other factor. It can even increase your chances of surviving a heart attack, although no indication exists of direct preventative value. Exercise will help you reduce your blood pressure and pulse rate, which means less wear and tear on the heart. Also, we can almost assure you that if you exercise more you will smoke less. With luck, you might even lose weight.

Smoking is just plain unhealthy. Stop! is the best advice. If lung cancer doesn't frighten you, try thinking about emphysema or heart disease. Experts say that the cumulative effects of heavy smoking are evident in autopsies. Smoking increases blood pressure and pulse rate, and reduces the tendency to exercise. All in all you can reduce your total score a lot—same as adding years—by quitting.

Drinking in moderation is probably not dangerous for most people, in fact, it may help them relax. But moderation is difficult to define, and being relaxed is of dubious value if your liver is pickled. Naturally, those folks who exceed one or two drinks per day face a higher risk of accidents, both motor vehicle and otherwise. Heavy drinking also puts on pounds and cuts down on your tendency to exercise.

Blood pressure can be controlled in various ways. Regular exercise will often drop it ten points or more, and so will stopping smoking. Your doctor can prescribe controlled diets or drugs that may help if the problem is serious enough. There is a lot you can do to influence this variable. If you have high blood pressure or hypertension, consult your physician and start working on getting it under control. High blood pressure places an extra workload on your heart, speeds up arterial and venous aging, and it often leads to a heart attack or a stroke.

Sex is another constant. Ladies live longer, since they are less subject to coronary difficulties and strokes. Whether or not women are overweight doesn't decrease their longevity much—for males it's deadly. Incidentally, we have no prejudice against baldness, it's just an unfortunate fact that bald stocky men have more problems than hairy stocky men, and a lot more than hairy skinny men.

Resting pulse. If an Olympic decathalon winner sat down for five minutes—not immediately after getting his gold medal—and then took his pulse, it would probably be about 50 beats per minute. That's well below the average, which is close to 90. Effectively then, the athlete's heart would be saving about 57,000 beats per day. So whose heart will wear out first?

Of course that's an oversimplication, but basically the slower your heart goes, the longer it goes. Exercising your heart increases its efficiency so that one stroke moves more blood. If you undertake a serious exercise program, you may drop your resting pulse by 20 or more. Not a huge change, but considered in terms of years it might mean two or three extra.

Early Mortality Penalty and Longevity Bonus are related to ancestry. Long life, or short, tends to be habit forming in families. Whether it's a matter of physical superiority, living habits, temperment, or whatever, is unknown. What is certain is that you will tend to follow in the footsteps of your forebears. However, you can improve on their performance.

Now you've played our game, worked out your life expectancy, and maybe even talked about this foolishness with your friends. What are you going to do about it?

You've probably noticed that we have pushed exercise very hard. There's a very good reason; it is necessary for a long and active life. In this age of automobiles, automatic everything, and television, our bodies don't get the required workout. We seem to be aware of this kind of problem with our mechanical inventions—we wouldn't put a car up on blocks for 20 years and then expect it to run perfectly—but we don't see the problem in ourselves. Many of us have put our bodies "up on blocks" since we finished that last gym class in high school, and expect our anatomy to carry us to a ripe old age without further maintenance. It just doesn't work that way.

Another problem is the quality of exercise. We counter accusations of inactivity with, "But I walk a lot," or "I swim every day in the summer," and "Well, what about shoveling snow?" If the exercise isn't done right, it's a copout. Good exercise elevates your pulse rate and keeps it that way long enough for your body to know it's been working. As you get into shape you'll use less and less energy to do the same amount of exercise (sweat less, pant less, reduce heart beats). Then all you need to do is evaluate your physical state (your doctor can help you a lot on this) and see if you want to increase your endurance even further or keep your present status.

Within weeks after starting an exercise program you should feel better, and be more alert and energetic. You'll also look better to others. Exercise is no fountain of youth, but it's one of the closest things that's been found yet. Look at it this way, every lap around the track could add another day of active life at the far end. Think it's worth it?

We invite you to play our game again in six months to see if you are winning or losing. It's the only game in town where you can stack the odds in your favor.

This story is adapted from the Canadian Armed Forces' flight safety journal, Flight Comment. *Some of the statistics may not seem quite right for Americans, but the article's message is very important for us.—Ed.*

Table 3, scoring the Game

Score	Description
5 to 14	Your chances of surviving to a ripe old age are extremely good.
15 to 21	You are in above average condition.
22 to 33	You're about average.
34 to 45	You face a moderate risk of health problems.
46 to 52	Your health is cause for concern.
53 or more	See your doctor as soon as possible and walk carefully on the way.

Mishap with a Moral

How *Slow* Can You Go?

The "old head" aircraft commander lifted the C-130 off the runway just as the sun peaked over the eastern horizon. His copilot was a lieutenant of competent reputation; a seasoned flight engineer rode the center seat. Despite their "oh-dark-thirty" show time, they were fairly well rested and alert for the double shuttle between an Army Air Field and an exercise deployment base.

Climb, cruise and letdown to the Army fort went smoothly. During the descent, the crew checked with the ALCE and were told that their load wouldn't be ready until about 30 minutes after their arrival time. The AC decided to use the delay to let the copilot fly an approach and missed approach in preparation for his upcoming instrument check. The left-seater would then take it for the full-stop landing.

Six miles from the outer marker, approach control handed the Herk off to the tower. Controllers watched the C-130 make a normal ILS approach to minimums and begin a missed approach.

Shortly after the AC took the airplane, the prop-oil-low light winked on the right side of the engine instrument panel. The copilot requested right-hand closed traffic; tower approved. On downwind, the AC decided to check the propeller system and instructed the copilot to request clearance back to the outer marker.

For the next three minutes the C-130 cruised toward the fix at 2,500 feet AGL while the crew followed the propeller-malfunction-during-flight procedures from the Dash One. With the prop-oil-low light for number two illuminated, the copilot placed that propeller's control switch in the mechanical governing position. The engineer locked the TD valve and the AC slowly retarded the throttle. The Hercules' airspeed decreased to 135 knots and then picked back up to 145 as the pilot advanced the throttles on the three good engines.

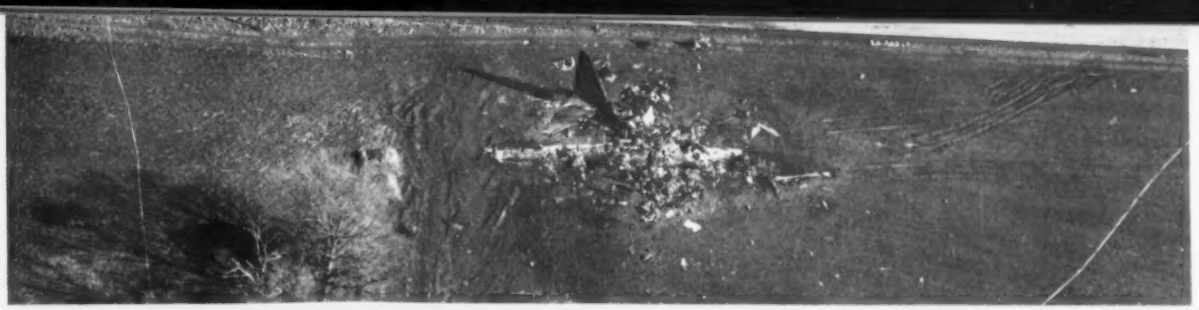
Number two's rpm followed the throttle, so the pilot decided to keep it running with the pitchlocked propeller. He banked the C-130 to the left toward the AAF, and told the copilot to declare an emergency. The left-seater then retarded all the throttles toward flight idle and began a descent toward the runway.

Suddenly the throttle control cable to the number one Allison snapped—leaving the left-outboard prop free to go to any power setting between full forward thrust and full reverse. Critical decisions had to be made in split seconds if the crew was to survive, and their workload soared. The AC ordered the copilot to feather number one while he kept the Herk heading toward the runway. The airspeed rapidly decreased to 105 knots and the left bank steepened. Despite the crews' efforts to regain control, the aircraft stalled and pitched nearly straight nose down. There was no chance for recovery. Human errors and mechanical malfunctions had teamed up to turn what should have been a challenging engine-out approach and landing into a disaster.

The Hercules' problems actually began before the flight when a maintenance person checked the propeller oil level in the number two engine. Finding the fluid quantity okay the mechanic closed the filler cap, but improperly inserted the lock pin. During the fateful flight, that pin vibrated out of its socket and the cap opened, permitting prop oil to slowly run overboard.

The *aircrew's* problems started when they didn't take advantage of their convenient position for an immediate landing when the prop-oil-low light came on. If they had followed the procedures for propeller malfunctions on takeoff, they would have shut down number two and made an "uneventful" engine-out landing. But hindsight is nearly always 20/20.

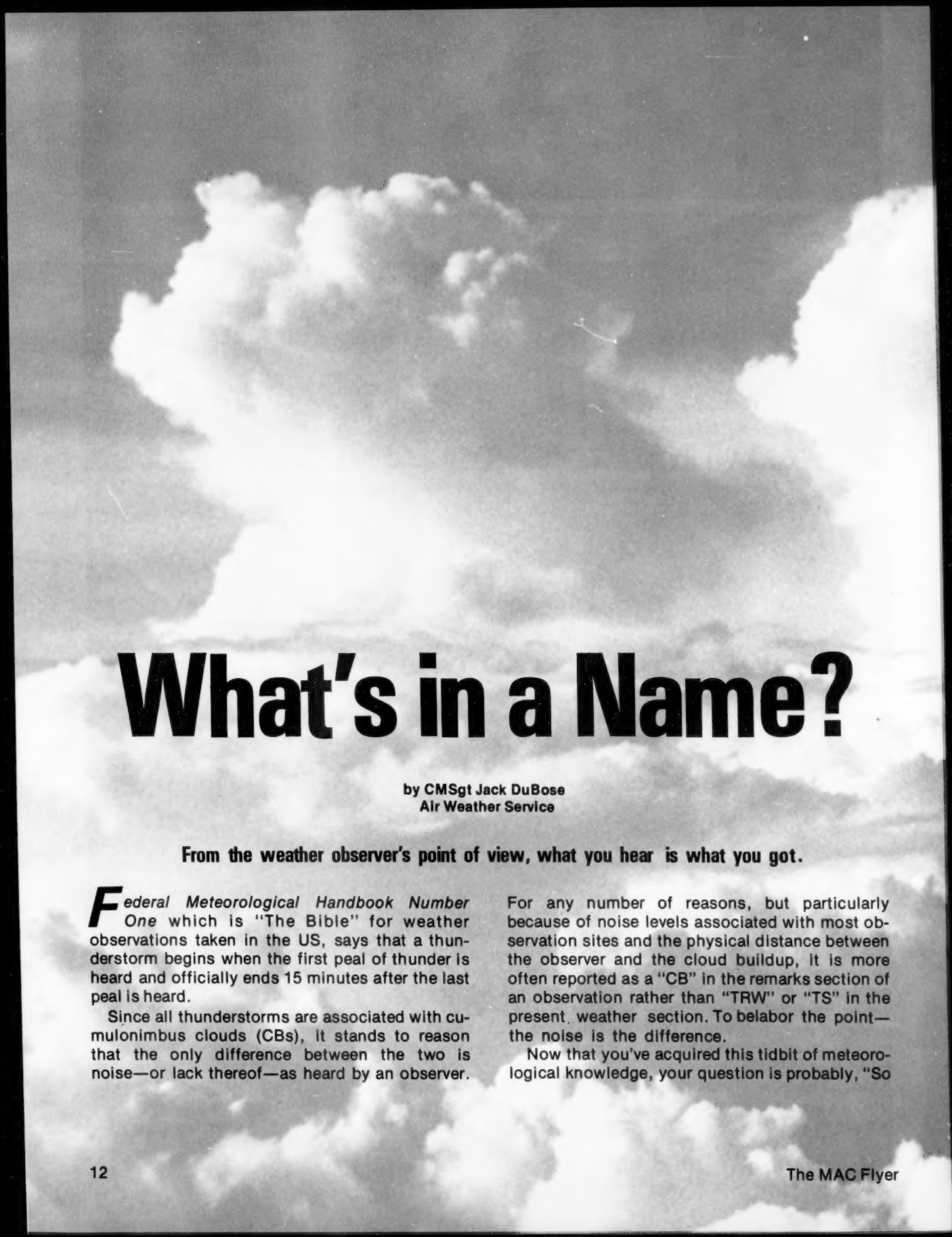
The flyers also could have avoided disaster if they had kept their Herk's speed above two-engine-out-minimum-control speed during the pitchlock check. For unknown reasons, though, experienced eyes didn't catch the decreasing airspeed as the C-130 tri-motored toward the beacon. And the crew didn't realize the danger of slowing below the two-engine-out-air-



minimum-control speed of about 140 knots with one engine operating at partial power.

With one turboprop about to be shut down and the airspeed decreasing, the mechanical failure of the number one throttle cable put the crew's workload at the maximum. They were forced to feather number one immediately. The Herk was still in a left turn toward the runway with two dead engines on the left side. In such an attitude, the two-engine-out-air-minimum-control speed was 176 knots, well above their probable 135 KIAS. With the loss of power, the C-130 rapidly slowed to stall speed and crashed.

This mishap has many morals. First, incorrect maintenance procedures can cause accidents. Second, air-minimum-control speeds are serious limits to aircraft performance. (The first knot below two-engine-out-air-minimum-control speed might well be called two-engine-out loss of control speed.) Third, trying to troubleshoot a serious malfunction when you can land immediately is very dangerous. Finally (and for the umpteenth time), during any emergency, somebody not directly involved in analyzing the situation *must* fly the airplane.



What's in a Name?

by CMSgt Jack DuBose
Air Weather Service

From the weather observer's point of view, what you hear is what you got.

Federal Meteorological Handbook Number One which is "The Bible" for weather observations taken in the US, says that a thunderstorm begins when the first peal of thunder is heard and officially ends 15 minutes after the last peal is heard.

Since all thunderstorms are associated with cumulonimbus clouds (CBs), it stands to reason that the only difference between the two is noise—or lack thereof—as heard by an observer. For any number of reasons, but particularly because of noise levels associated with most observation sites and the physical distance between the observer and the cloud buildup, it is more often reported as a "CB" in the remarks section of an observation rather than "TRW" or "TS" in the present weather section. To belabor the point—the noise is the difference.

Now that you've acquired this tidbit of meteorological knowledge, your question is probably, "So

what?" If you drive MAC airplanes (or any other company's) there is a fair-to-middling probability that you'll do your thing outside the CONUS. If so, you'll probably encounter METAR codes and non-Air Weather Service briefers. While the present AWS practice is to refer to "CBs" as "thunderstorms," other weather services still treat them as separate phenomena. To illustrate, let's try one of the Air Force's famous motivational exercises, the multiple choice test.

1. You have received a multi-stop updated weather briefing on your DD 175-1 from a non-USAF weather facility for Athens (LGAT), Incirlik (LTAG), and termination at Torrejon (LETO). Which of the following would indicate a probability (or possibility) of hail, severe turbulence, severe icing, heavy precipitation, lightning, and possible low-level wind shear during descent and final approach?

a. LGAT 1CB015 2CU030 3AC060 6TS 03015/25 QNH29.85 CIG060
b. LTAG 2CB015 3CU030 6RASH 18010/25 QNH2992 CIG030
c. LETO 2ST005 3CB010 3RASH 15010/20 QNH2975 CIG010
d. All of the above.

If you didn't answer "d" you might find yourself in deep kimchee on short final. Every one of the above is basically telling you the same thing, except the Hellenic prophet had enough confidence to think the observer would hear his forecast as well as see it.

Below is a handy chart for quick reference. You can post it prominently for that "1% sheer terror" portion of flying that involves severe weather—just in case you *still* have a question about the difference between CBs and thunderstorms.

Cumulonimbus Checklist

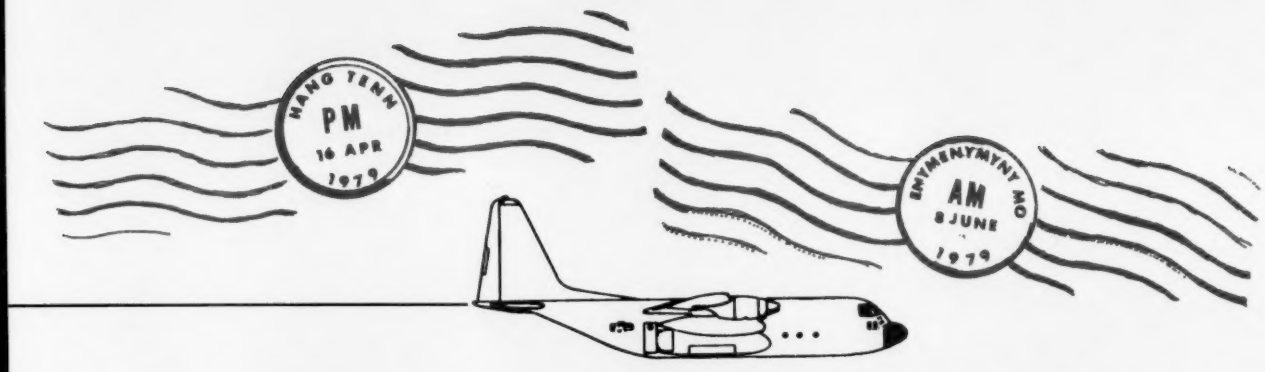
Cumulonimbus clouds contain:

Severe turbulence
Severe Icing
Hail
Heavy precipitation
Possible low-level wind shear
Lightning

Thunderstorms contain:

Severe turbulence
Severe Icing
Hail
Heavy precipitation
Possible low-level wind shear
Lightning

+ Thunder



Flight Lines

He Wrote the Book!

Riding to Panama from Kelly on a C-130, I read "Letters to the Editor" in the April *Flyer* commenting on an article by Capt Bruce Gumble titled "The Last 300 Feet." In 1930, the late Colonel Bill Ocker and I were instrumental in establishing "blind flying" in the Army Air Corps. In 1932 we wrote the first book on the subject, and it was published that same year. For four years at Randolph AFB, Texas, I taught a course in IPIS, until it closed last year.
Kind regards,
Carl J. Crane, Colonel, USAF (Ret)
San Antonio, Texas

★ We are always interested to hear from aviation pioneers like yourself, Colonel Crane, and to share your tidbits of flying history. Perhaps we can even talk you into reminiscing about the early days of instrument flying at greater length in a future issue of *TMF*.

Correction

I noticed an error in the article "Primrose Path" in the May issue of *TMF*. HATRs are submitted IAW AFR 127-3, not AFR 127-6.
Major Alan C. Murphy
39 ARRW
Eglin AFB, Florida

New *Flyer* Feature?

We are glad to see the start of your new feature, "Name That Problem" on the cover of your 25th Anniversary Issue [June '79]. This one was easy. The nose gear is not cocked. Please let us know if we are the first unit with the correct answer.
Captain Hugh Jardon
305 ARRS (AFRES)
Selfridge ANG Base, MI

★ Nice try, but not so fast with the self-administered pat on the back, Hugh. You didn't seriously think *TMF* would make the problem anything as obvious as an uncocked nose gear, did you? Had your acuity been really sharp, you would have noticed the telltale bright spot in one of the pilot's windows which resulted from the sun glinting on an unauthorized and very unsafe wedding band he was wearing. Better luck next time.

Right On, Colonel

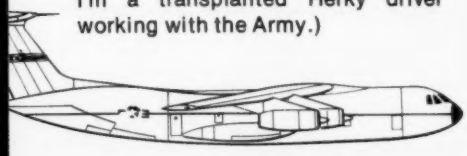
Colonel Neeley's interview in the 25th Anniversary Issue of *TMF* couldn't have been more appropriate for the times. Not only are young USAF crewmembers departing, the same is happening, and for the same reasons, to the crews of the USN/USMC. The comment that they are getting out just for the sake of getting out rings true in all the services, I'm sure. Anyway, I enjoyed the candid interview and hope that everyone gets the picture.

As the Marines (me being a former one) say (slightly modified), "We *all* need our good men to stay!"
Joe Homer
Fixed-Wing Writer, *Approach*
Naval Safety Center
NAS Norfolk, VA.

★ Colonel Neeley passes along his thanks for the kind words and says he certainly agrees with your assertion about all of the services needing their good people. He also congratulates you for your excellent taste in interviews.

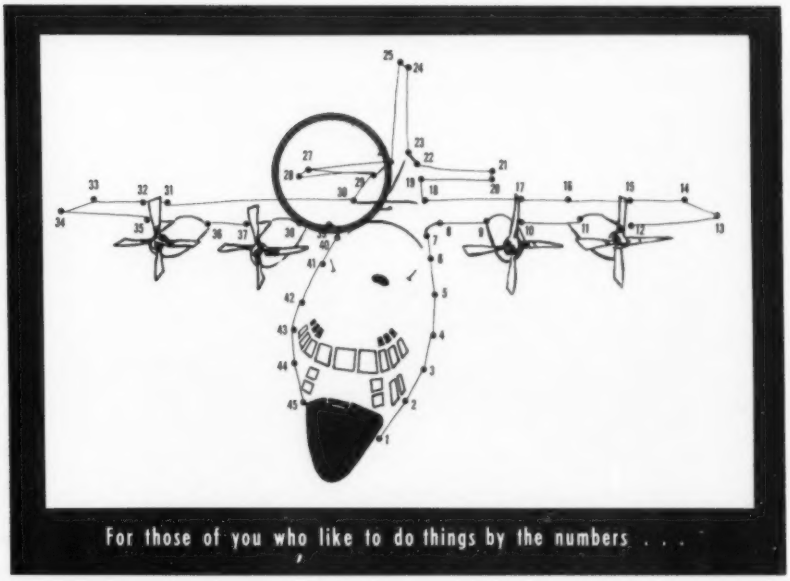
Oops, Two, Three, Four . . .

I am an officer who prides himself on doing things by the numbers and getting the job accomplished. So, I tried out the attached connect-the-dot picture. (Just to see how accurate your drawing was, since I'm a transplanted Herky driver working with the Army.)

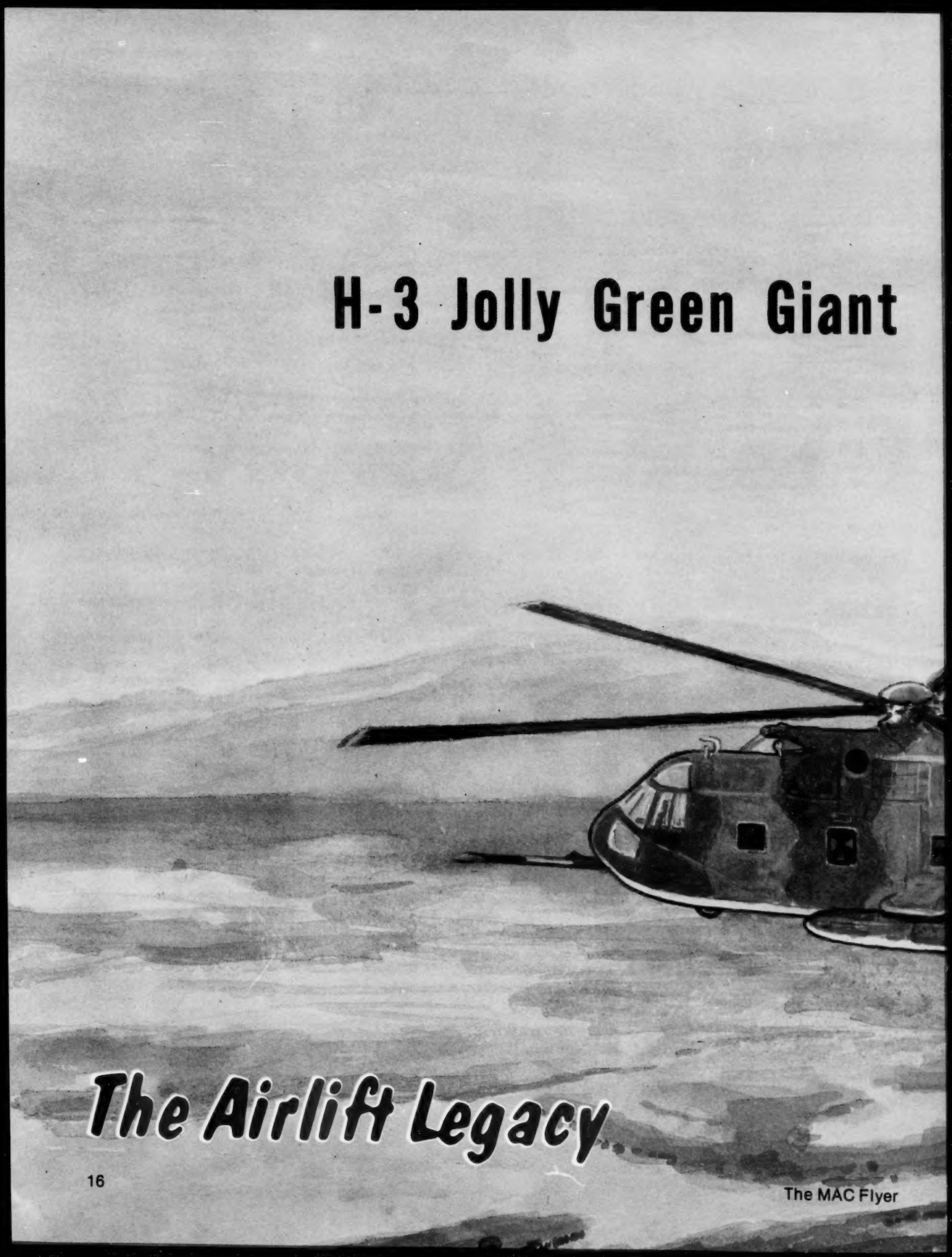


Well, as you can see by the right horizontal stabilizer, even us do-it-by-the numbers guys are creatures of habit. Excellent demonstration.
Capt Shanon P. Dunlap
Tactical Airlift Liaison Officer
Fort Stewart, Georgia

★ Nice work Shanon! Seriously, thanks for sharing your "goof" with us and helping to make the point that if you aren't paying attention to what you're doing, not even working "by-the-numbers" will help you do it right.



H-3 Jolly Green Giant



The Airlift Legacy

Since 1962, when the first CH-3B was accepted by the Air Force and began transporting people and equipment to and from the "Texas Tower" radar sites out in the Gulf of Mexico, various members of the H-3 family of helicopters have done yeoman service. Best known of the H-3s is the HH-3E "Jolly Green Giant." Like its cargo carrying cousins, the Sikorsky-built Jolly is powered by two turboshaft engines, but it also features two external jettisonable fuel tanks, armor plate, armament, and aerial refeuling capability. It carries 25 passengers, 16 litter patients or 5,000 pounds of cargo. In addition to an external hoist, cargo models have an internal winch system for muscling cargo on board through their hydraulic-powered rear ramp door.

H-3s are amphibious and their water-tight boat hulls give them a distinctive appearance. They have been instrumental in daring rescues under all sorts of conditions and over terrain ranging from open seas to treacherous mountains. C-models participated in support of NASA's space program, recovering data capsules and providing rescue capability during launches.

Statistically speaking, the best of the H-3s can travel at a top speed of about 160 miles per hour, climb to above 12,000 feet, and travel more than 750 miles without refuelling. Normally, they carry a crew of three—pilot, copilot and flight mechanic. Pararescue specialist teams are added during search and rescue operations.

by 1st Lt Richard E. Tullos
Aeronautical Engineer
Warner Robbins Air Logistics Center

Here's how some of the forms you generate when you fly help keep the airplane together.

ASIP is an acronym for the Aircraft Structural Integrity Program. It's a multi-faceted program with the overall objective of insuring that our aircraft will be safe to fly and economical to maintain throughout their entire lifetime.

What do you mean by an aircraft's "lifetime"?

Actually, an aircraft has several different kinds of lifetimes. First, there's *design* lifetime. Based upon some anticipated use, a goal is determined for how long an airplane should last—typically, several thousand flight hours. With this goal in mind, engineers design the structure to retain its strength for at least that long. Secondly, there's *economic* lifetime. As the aircraft is flown, its structure begins to wear out, and we must spend time and money to keep it structurally safe. At some point it will be more cost effective to buy a new aircraft than to keep fixing the old one. That point marks the end of the aircraft's economic lifetime. Naturally, the economic lifetime should be equal to or greater than the design lifetime. Finally, there is the actual *operational* lifetime—a number that isn't available until the aircraft is retired from service. It's not unusual for an aircraft's operational lifetime to exceed two or even three design lifetimes. Whether or not an aircraft will live out its design lifetime is determined largely by the amount of stress fatigue it accumulates.

Microscopic flaws exist in all structural components. Some are natural imperfections in the material; others are man-made flaws introduced by manufacturing processes such as drilling or grinding. The stresses experienced in each flight cause tiny cracks to grow from these flaws—what we commonly call fatigue. Each stress cycle causes the crack to grow a bit longer until finally the structure loses enough strength to fail. The lifetime of each piece of structure is limited by the time it takes for a crack in the most critical location to grow to the failure point.

What does all of this have to do with ASIP?

Since actual aircraft operation is such a major factor in the fatigue process, a large part of ASIP involves recording exactly how the aircraft is being used in terms of fatigue producing elements. Two of ASIP's component programs deal exclusively with recording this vital "wear and tear" data.

The first is called the Individual Aircraft Tracking Program (IATP). As the name suggests, the IATP monitors the use of each aircraft in a fleet. Data is gathered by means of flight log forms (AFTO Forms 151 and 451) for the C-130 and

C-141 fleets respectively. These forms are filled out during or after each flight by either an aircrewmember or maintenance debriefer. The forms may specify a sequence of flight maneuvers, or they may simply identify one of several standard mission types. They may also give airspeeds, altitudes, takeoff and landing weights, airdrop weights, number of touch-and-go or full-stop landings, or any other data needed to accurately describe that flight. The data is used to construct a computer model of each flight. These flight profiles are then combined to determine the stresses experienced by the airframe during those flights and calculate just how much each aircraft's lifetime is eaten up by the accrued structural fatigue.

It seems logical that the harder you fly an aircraft the faster its structure is going to wear out. The IATP gives us a precise method of quantifying that bit of logic. It's a way to measure the differences between the presumed and actual fleet use and the effects of those differences on the structural "health" of the aircraft.

The second major data gathering program for ASIP is the Loads/Environment Spectra Survey, or LESS. This program is known to some as the Life History Recorder Program. Unlike the IATP, which samples 100% of the fleet, LESS follows fewer airplanes—usually 10 to 20% of the fleet. Although the number of aircraft sampled is much smaller, the data collected is much more detailed. Each LESS aircraft has a tape recorder and several sensors which generate a continuous record of flight conditions. The system typically records airspeed, altitude, accelerations and gyroscopic rates in three directions, and control surface deflections. Also, some systems have strain gauges in special locations to provide a direct reading of the effects of flight loads on the structure.

Do these two programs duplicate each other?

While some of the data gathered is the same, neither program is complete without the other. The LESS gathers very detailed information about the flight environment and the mission stress, but it generates little or no fatigue damage data. In contrast, the IATP takes the less detailed information from every flight, runs it through a computer program which models fatigue damage, and produces an estimate of the structural condition of each aircraft in the fleet. The result is only as good as the computer model, and it is the LESS which helps to verify the accuracy of that model. So the two programs complement one another.

You can collect tons of data; does it get used for anything?

Until we have unlimited funds to buy new aircraft, it's vital that we make the most efficient use of the ones we have. That includes managing the fleet in a way that maximizes its structural lifetime. ASIP provides us with a management tool for that purpose. The utilization and damage data are accumulated in a computer-based file and may be used to predict the long term effects of management decisions.

For example, it's common for aircraft to be modified in some major way to accomplish a mission for which it was not originally designed. ASIP can help to forecast the effect of a new mission on an existing aircraft. We took the C-130 cargo plane and modified it into the AC-130 gunship. A gunship experiences abrupt evasive maneuvers not encountered in normal cargo missions. Once we have established a model for the gunship mission, the IATP can monitor the effect of the different usage on the individual gunship aircraft. If that mission produces unique structural damages, the ASIP data products will show us the extent of the problem and the structural areas in which we must make improvements.

Here's another example: Individual aircraft within a fleet may see radically different usage. Consider an aircraft flown by the 443 MAW at Altus AFB, Oklahoma. Since Altus is the training

base for C-141 pilots, the typical flight is of short duration with low payload weights, at low altitude and airspeed, and includes several touch-and-go landings. Fatigue damage is highest in the landing gear, its support structure, and the wing structure. Contrast this with the C-141s flown by the 438 MAW at McGuire AFB, New Jersey. They fly a lot of transatlantic missions characterized by long duration, high altitude and airspeed, high cargo weights, and a single landing. In this type of mission, the most fatigue damage occurs in the fuselage structure from cabin pressurization cycles over many similar flights. Once again, the IATP quantifies the effects of these different missions. On the basis of such data, MAC swaps aircraft among their bases so as to even out the fatigue damage in the different parts of the airframe. By doing so they increase the structural lifetime of the fleet as a whole.

Don't you have enough data by now?

Remember, the reason for having the program is to identify and evaluate any differences between the assumed and actual flight experience of each aircraft. If we eliminated the flight log and recorder programs, we would be back to making guesses. The programs are reviewed periodically to see if they are meeting the needs of the system managers. If it's possible to meet those needs with a smaller program, then changes will be made. But since this part of ASIP monitoring exists to verify past assumptions, some sort of ASIP monitoring will be necessary for the operational life of the fleet.

Will I ever see any results from ASIP?

ASIP is a long-term program. It begins in the conceptual phase of design and continues until the fleet is retired. Therefore, it may appear that the day-to-day efforts of the crews and the maintenance people don't yield any results, because the end products are not usually seen by them. The products are management tools for engineers, logistics support planners, and force managers.

As a management tool, ASIP gives them the ability to do some very practical things. The program can identify aircraft most likely to have a given deficiency, thereby saving much of the time and effort required to inspect the entire fleet. The fatigue damage data generated by ASIP can be used to schedule structural repairs or modifications. We can easily identify those aircraft having higher accumulated damage and schedule them to be modified first. Similarly, our data can be used in scheduling aircraft for certain high-damage missions. As an example, consider the continuing exercise Red Flag. This exercise simulates the type of flying experienced under combat conditions and produces the most severe structural stress of any mission flown. ASIP data would allow a commander to schedule those aircraft having lower structural fatigue for such missions. Again, such action would serve to increase the lifetime of the fleet as a whole.

As you can see, ASIP plays an important part in the management of our aircraft resources, which constitute a sizable chunk of our national defense arsenal. If we are to accurately keep track of the structural condition of the airlift fleet we must have current and complete flight history data from both the flight log program and the ASIP recorder program. Since the results can be no more accurate than the input data, it is obvious that the people who operate and maintain the recorders and complete the flight log forms—and this includes aircrewmembers—play a very important role in assuring the structural integrity of our MAC aircraft.

Second Place, 1979 MAC Flying Safety Writing Contest

Ask anybody in the squadron after an accident, they'll tell you the guy was a . . .

Good Pilot

Thanks, colonel. Sorry it had to end with such a routine flight," the captain said smiling. He waited at the door for a response from the figure in the flight suit.

"Fine check ride, Ed. That's all that matters," the colonel said, leaning back in his chair. "Better than going down in flames or some such romantic finish."

The two men looked at each other for a full 30 seconds. There was nothing more to say. Wishing the Academy had trained him for such a moment, the captain waved an awkward goodby and closed the door.

Colonel L. R. James, Wing Stan Eval, the name plate read. Never allowing himself the luxury before, he leaned back and put his feet up on the desk. Pondering the acoustic ceiling tile, he said out loud, "So this is it, one each Air Force flying career ended."

The captain who'd just left the office was a squadron exam-

by Maj D.C. Kearns
96 TAS (AFRES)
Minneapolis-St. Paul IAP, Minnesota

iner. He'd flown a good ride. Colonel James enjoyed a reputation for thoroughness throughout the Wing. The captain must have been aware of this also, because it was obvious he had prepared for a "James Job." The colonel smiled as he remembered the two lieutenants he had overheard at the Club. "Colonel James really does a job on you. You better know your job because he knows yours *and* his!" How true, how true, he thought.

Debriefing was Colonel James' specialty. He had always maintained that it was the most neglected part of most check rides. Here he used his experience to find out if a man had just memorized a book full of numbers or whether he understood how it all fit—how the airplane, regs, and MAC work together. The captain was a good, competent pilot and seemed quite professional.

It wasn't supposed to end like this, the colonel thought. Not a checkride. It had been a scheduling foul-up, but no matter, this was it, his last ride for the Wing, for MAC, for the US Air Force.

Crossing his flying boots on top of the desk, his mind wandered back over the 20-plus years of flying in MATS, Rescue, TAC, and back to MAC. Smiling to himself, he repeated the inadvertent rhyme. The inner smile dimmed as memories of Southeast Asia drifted in. Good pilots flying into mountains during rainstorms, landing short, long, most of them non-combat related. Just guys pressing—too much ego. In the last 18 months the Wing had had four accidents, Colonel James thought. They were all good pilots. I knew them. He sat upright in his chair. "Good pilot, good pilot," he repeated out loud. Standing, he turned to look out the window. The afternoon local was blocking out on time. No place on your OER does it mention pilot, piloting, or airmanship, he thought. Everybody's a good pilot.

After each of the four accidents everyone who knew the pilots involved kept apologizing, "But he was a good pilot, I don't understand." Do we tolerate a lower standard than we realize, he wondered. Has flying the airplane been lost to technology worship?

No place on the OER does it mention piloting or airmanship.

The colonel organized his thoughts as he sat down at the desk. Colonel James was many things to many people, but to himself he took pride in his memory —people, faces, names, everything.

Without a wasted motion he pulled out a legal pad and tore off 15 sheets of yellow paper. Spreading the individual sheets out on his desk, he started to label the top of each with a felt pen: decision-making ability, leadership, runs professional crew, doesn't try to be everybody's pal, instrument pilot, VFR pilot, aircraft knowledge, knowledge of procedures and regs, receives respect because he deserves it, isn't afraid to use his authority, willing to admit he's wrong when he is, disciplined in real emergencies, looking for ways to do it better and safer, up on aviation besides military, common sense. There wasn't enough room for another sheet.

Pausing for a moment to shift mental gears, he started. Each pilot that Colonel James had flown with or knew by reputation as a good pilot was listed on each paper if he possessed the trait listed at the top of the page.

Two hours passed without a break in the sound of the squeaking felt pen. After checking and rechecking the Colonel stood, shaking his head. Not one name appeared on all 15 sheets. He felt a wave of disappointment come over him.

Fred McDonald. He had been the finest C-121 pilot on the East Coast. In the light of past years, Colonel James saw him differently. When the C-130 transition came, Fred used the upgrade program to fly lower than he had to, tighter formation than necessary and off the approved routes. In the Connie this trait never surfaced. We all thought it was aggressive mission hacking, the colonel remembered. It was really a public display of poor judgment. Memories of the card games at Lajes tried to push out the unpleasant realizations. Instinctively he reached for his wallet, remembering what a terrible card player he'd been.

Cards? What about Bud Vincent? the colonel thought. Another disappointment. Bud was an excellent Herk pilot. Thirteen

sheets contained Bud's name. But "willing to admit he's wrong" and "looking for ways to make the system safer" failed to have Bud's name listed.

Bud made snap decisions without any input from his fellow crewmembers. He tried to do the loadmaster's job, the flight engineer's, and once even the nav's job, with near disastrous results. Knowing the regs and flying wasn't enough. Not admitting he was wrong was one thing, but he trusted the system and never considered it possible that a procedure could be improved. If a rule or reg changed, he never cared why. If it was in the book, it had to be right.

Under "instrument pilot" Les Barton's name was missing. Colonel James would have laughed had it not represented a major breakdown in the system. Les was a terrible instrument pilot, the worst. Between flying instrument checks only on CAVU days, letting copilots make actual weather approaches "for training" and using the autopilot to the greatest extent possible, he's fooled Stan/Eval for nine years.

The closest he could come to one man's name on 15 sheets was Mike Fairmont. The colonel counted him on 14 lists. Mike was the closest to an ideal pilot he had ever run across—a combination of the best MAC and TAC C-130 drivers. He was outstanding at formation and low level. His instrument work was flawless. His knowledge of flying in Europe or South America equalled or surpassed that of most local civil pilots. In the three years that he and Mike were in the same squadron, Colonel James had never seen Fairmont make a single flying error of any kind. He seemed to know everything there was to know about flying—yet he was also the most universally disliked individual the colonel had ever met.

Rather than use his remarkable knowledge and ability constructively, Mike was merciless with any crewmember who did not reach his standards. Finding people who would fly with Fairmont was a constant nightmare for the schedulers in each section.

An observant ORI team member spotted the tension on Mike's crew and brought it to the ops officer's attention. The job fell to Mike's flight leader, Colonel (then Major) James, to bring it up. It had been a difficult two hours. Mike left the Air Force at the earliest opportunity.

Maybe the most difficult part of this mess on my desk, the colonel thought, is that *my own name* is not on two of the lists. In the privacy of his office he could admit to himself that he was a marginal VFR pilot. At night, going into an assault strip with no GCA, no VASI, he was at his personal operating limits. He was not comfortable. The other list was "doesn't try to be everybody's pal." Maybe I'm getting mellow, he thought. He had gone out of his way to be a good guy these past two years. Some authority had slipped away in the process.

"Now what," he said out loud. There was nothing left to do. Taking each paper, rereading the names, enjoying the memories each fellow pilot brought back, he stacked the 15 sheets in a neat pile.

Not taking his eyes off the papers, Colonel James got up and put on his flight jacket. He picked them up, thought for a second, then threw them in the waste can. "Ten years ago," he said out loud. "I wish I'd thought of this ten years ago."

Heading toward what used to be Happy Hour at what used to be the Stag Bar, Colonel James said to himself, "Good pilot. That's a term I'll never use again," and he closed the door behind him for the last time.

ABOUT THE AUTHOR

Major Kearns is a native of Cleveland, and a graduate of Miami University, Oxford, Ohio, where he received his commission through ROTC. On active duty, he flew C-130s for MAC at Charleston and McGuire AFBs. Major Kearns now does his military flying as a stan-eval pilot for the Air Force Reserve and in civilian life, flys for Northwest Orient Airlines.

Deja Vu*

*(day-zha-voo), [Fr. lit., already seen], the illusion that one has previously had a given experience.

Pete Field is located on a rolling grassland plateau at the base of the Rocky Mountains, six miles east of Colorado Springs. Pike's Peak, 14,109 feet high, lies just 15 miles to the west. Surprisingly enough, though, the biggest hazard is not terrain—it's the potential for a midair, especially on weekends and holidays. Within 15 miles are eight smaller fields and two special use airspaces. Civilian, military and general aviation traffic in the Colorado Springs area is extremely dense, and includes military and civilian light aircraft, sailplanes, balloons and skydivers. Taxiways are marked with reflectors instead of lights, and at times are very difficult to follow. The field has three runways, with 17/35 being the primary instrument strip. Quite often VFR traffic under tower control is sequenced in simultaneously on either of the other two runways, 03/21 and 12/30. A landing illusion can occur on 35 due to the descending overrun slope which merges with the ascending runway slope at the threshold. And, of course, you don't ever want to forget all the difficulties associated with heavy takeoffs on a runway that is already more than a mile up in the air.

—Adapted from ISD-Q6-598

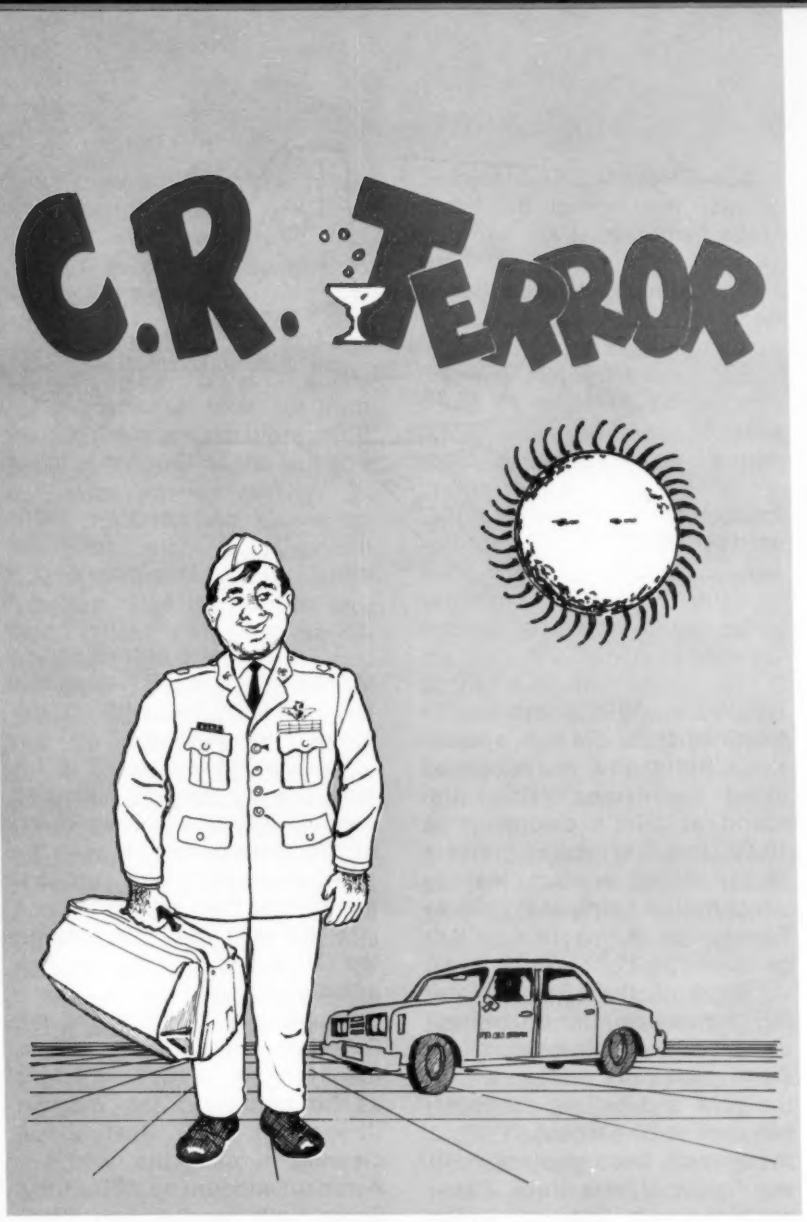
Peterson AFB (Elevation 6,172 feet)
(City of Colorado Springs Muni)

Runway 21 seen from ¾-mile on final. The approach crosses runway 30 just before touchdown.

This view of the runway 35 touchdown zone shows the steeply sloping overrun that may contribute to visual illusions.

From final approach to runway 35, the terminal complex and threshold for runway 03 are to the left.

C.R. TERROR



The Ace of Aerospace almost bends the rules more than he can bear.

The hot summer sun beat mercilessly on the Portly Pilot's balding pate and he mopped his forehead with a monogrammed Irish linen handkerchief. "Sam, tell command post to get the pax out here before we melt into a puddle of perspiration and run out the pitot-static drain," C.R. prodded the copilot.

"Command Post, Rotun zero-one, we're ready to start as soon as our passengers arrive," the sweating, Suffering Sam complained over UHF.

The reply was predictable, "Roger, Rotun one, they're on the way."

To the dynamic duo's surprise, a blue sedan stopped in front of the Sabreliner only seconds later. A big burly major disembarked dragging an overstuffed B-4 bag after him.

"Well, I'll be! It's none other than Alvin Thomas Adam Bear!" exclaimed C.R. as the six-foot-four commuter ducked through the Sabreliner's door.

Soon a hairy paw extended into the cockpit with a jovial greeting, "C.R. you ol' turkey, how the heck are ya?"

"Greater than ever, Atta Bear," replied the Paunchus Pilot as he shook the visitor's hand. "How come we're taking *you* to the high desert?"

"Gotta try to analyze the problems we're having with a phase four test interfacing the close air support aircraft and attack helicopters with the airlifters out at exercise Salty Dog," explained the large economy size major.

"Hey, that sounds like a real ball," replied C.R. sardonically. "Have a seat and we'll get this sweltering Sabre fired up and cooled down."

The tini-liner was soon climbing westward into a clear summer sky. By the time Sam finished the climb-power check passing 15,000 feet, Major Bear had wedged his hulk into the cockpit door and asked if anyone wanted coffee.

C.R. chided the good-natured passenger, "Black coffee for the pilot, engineer."

"C'mon, C.R., I haven't had to put up with that for years," retorted Bear.

"You two must go way back," interjected Sammy as he leveled the Sabreliner at FL 280.

"Well, you could say that, captain. Major Terror and I have crossed paths off and on.

C.R. chimed in, "Yeah, I remember the first time I met you. You were checking the props on my C-124. I figured you were the biggest, dumbest flight engineer I'd ever seen."

"Big, yes. But I was smart enough to save your mangy hide from old 'Mag Check Charlie' at Wake that night," reminded the former FE.

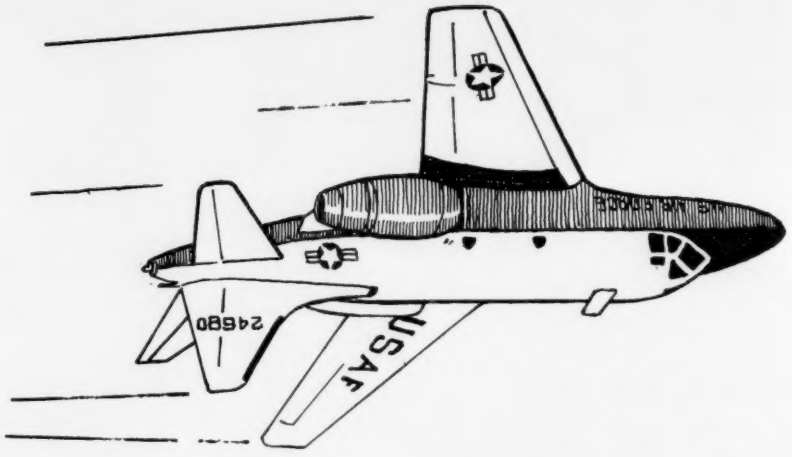
"With my exemplary influence, I'll never understand why you became a navigator, Bear."

"What I wanted to be was an aeronautical engineer, so I applied for the airman education and commissioning program in '64. They were fat with pilots, and wouldn't take me unless I agreed to be a navigator, so I signed my name on the dotted line. I graduated *summa cum laude* with an aero degree. After OTS I went to Mather, and a year later I ran into C.R. again."

"Yep, the next time I saw him, he was *Lieutenant* Bear," agreed C.R. "I was hauling folks into Siagon in a 141 when this big fighter-gator bounded up the ladder and asked Blinky if *he* needed any help!"

A.T.A. Bear got a faraway look in his eyes. "Those were the good ol' days, C.R.—flying Wild Weasel missions, air-to-air combat, the joys of the last one-time good deal. I pulled three tours in SEA, and when I finally had to come home they stuck me in R and D work for Systems Command," complained the frustrated GIB. "I really miss flying fighters."

Sammy smoothly guided the Sabreliner along the airways as the two old buddies reminisced for what seemed like hours.



Finally, a VHF transmission from center caught C.R.'s attention, "Rotun one, you're cleared direct Twentynine Palms. Descend at pilot's discretion to 10,000 feet. Thermal altimeter is 29.95. Radar contact lost in uncontrolled airspace; report Twentynine Palms to Los Angeles on 134.25."

"Roger all that, Sammy, and tell 'em we're out of twenty-eight," ordered the Sabreliner Sultan placing a pudgy paw on the yoke and pulling the throttles back to 80 per cent. "I've got the aircraft. Let's give our visiting fighter flyer a thrill. Crawl out of that seat, Sam, and let the major sit up front for the descent."

Long Suffering Sam furrowed his brow in a skeptical expression that C.R. recognized all too well.

"C'mon Sammy, it's stark-raving VFR, we're in uncontrolled airspace—so nobody's watching—and I'm certainly capable of handling this mini airlifter with Bear's able assistance. You still have your civil license, don't you, Bear?"

A proud smile spread across the major's face. "Private single and multi-engine with instruments," he answered.

Sam resigned himself to his fate, unstrapped and squeezed past the giant field grader in the narrow passageway between the cockpit and passenger compartment. Bear then settled himself into the right seat, strapped on the CT-39 and ran the seat full down and full aft.

The Ace of Airlift banked the Sabreliner sharply to the left and then rolled it swiftly to the right as he continued the descent through FL 200. "Just a few clearing turns," the Ambient Aeronaut announced. "This little Sabre really handles well. Want to try it?"

"Talked me right into it!" was the right-seater's jolly reply. Major Bear took hold of the yoke with a gigantic gripper that completely covered the upright part of the wheel. Despite his overbearing stature, however, he was smooth and confident on the controls. He continued the descent and imitated C.R.'s clearing turns with steep banks to the right and left.

"Traffic at 11 o'clock!" warned

Sammy from his vantage point in the cockpit door.

"Tally ho!" responded the pseudo second in command. "Looks like a glider."

"Take us over and we'll have a look," ordered C.R.

"On the way, Old Buddy. I'll set us up for an intercept from the eight-o'clock position. We'll come at him out of the sun and he'll never know we went by."

But the Sabreliner closed on the glider more quickly than C.R. anticipated. As it's white fuselage filled the windscreen, the Startled Skipper's newly-adopted copilot began a barrel roll around the sail plane. The glider flyer was as surprised to look up and see C.R. looking down at him, as C.R. was shocked to see the glider below them from the top forward cockpit windows.

"That was great, C.R., this little airlifter does fly like a fighter!" exclaimed the ecstatic aeronaut in the right seat.

"Better take it easy, Bear, we don't want to bend this toy airliner," cautioned C.R. "I've got it. How about letting Sammy back in for landing?"

Major Bear reluctantly abandoned the cockpit and Sammy assumed his accustomed position. "Do you think he bent it, Boss?" asked the copilot.

"Naw, airplanes are designed to take a lot more G's than we ever give 'em. Right Bear?"

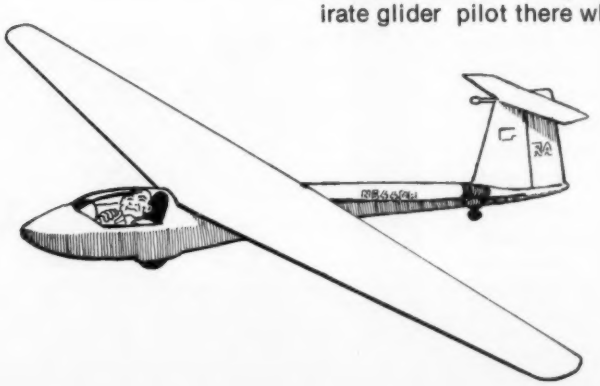
"As an engineer, I'd say this plane was designed to take about 30 per cent more G's than the limits show."

The remainder of the descent and approach into Marine Twentynine Palms went smoothly. When the Sabreliner bobbed to a stop on the ramp, the Terrorific Twosome and passenger were met by an ALCE duty officer with a worried look. "Major Terror, Colonel Fang wants to see you in the Airlift Command Center right away sir."

"No doubt he wishes to compliment me on an early arrival to pick up our VIP," boasted the Flatulent Flyboy as he strutted into the ops building.

He knocked twice on the office door and strode in with an air of confidence, "Major Terror, reporting, sir. Ready and early to pick up the general."

"Sit down Terror," growled Colonel Fang. "I just got a phone call from Thermal Flight Service Station. They have an irate glider pilot there who says he was buzzed by a military transport jet while he was soaring over the desert east of Twentynine Palms. Seems the pilot is an associate of ours, Gordon Bullmoose, Lieutenant General, retired. He said the tail number looked like either 880 or 680, and since your CT-39 is number 680 you are highly suspect."



C.R. was crestfallen as he protested weakly, "But I wasn't—"

"Don't say anything to me right now. Go down the hall to the safety office and see Captain de Tale and get an HATR form filled out. He's investigating this incident and I expect your full cooperation. Meantime, if I uncover even the slightest inkling of hot dogging on your part, I'll make sure that you spend the rest of your so-called career as a copilot. Now get out of here."

The Rhinestone Flyboy galloped out of the colonel's office to run right into Sam and Major Bear.

"Well, Bear, we're even for you saving my life once. I just about lost my wings in there. That glider was piloted by a retired general who caught our tail number, but the colonel is suspending judgment until the safety and ops investigations are over. With any luck at all I can talk my way out of it."

"Gee I'm sorry, C.R.," apologized the acrobatic Bear. "Maybe I can make it up to you somehow . . . maybe a ride in an F-4 sometime?"

C.R. shook his head and turned to his airlift assistant, "Some things are incurable, Sam. Looks like being a fighter flyer is one of them. Let's go fill **out** some paperwork for the safety guy."

Quick Stoppers

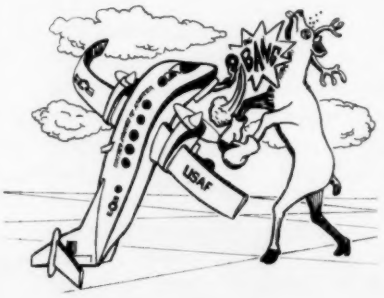
C-141 Razes The Roof

Failure to follow the ground controller's instructions while taxiing after dark proved to be both costly and embarrassing for a C-141 preflight crew tasked with moving the aircraft from one spot to another. Advised that they had passed the correct taxiway and were headed down one that was temporarily notamed as being a dead-ender due to repairs, the aircraft commander elected to make a 180-degree turn and come back to an intersection where he could get onto the correct blue-lighted pathway. In the process of wheeling the jet around in its own tracks, he cut about 60 feet to the right of centerline in order to position himself for a left switchback. The scanner, who was busy preflighting the radar at the time, didn't provide any warning of an unexpected obstacle, in the form of a storage shed, and the fairly new copilot who did see it misjudged the clearance distance. Result: Another dinged Starlifter wingtip, and a storage shed partially unroofed.

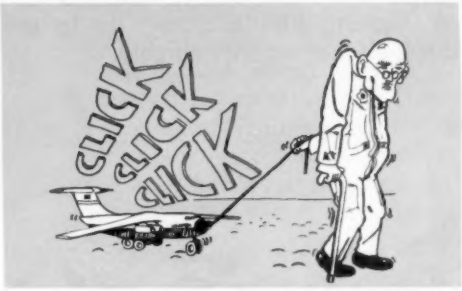
Caution--Deer X-ing

A C-12A sustained Class B damage shortly after touchdown at Ramstein AB, Germany, when a deer ran in front of the aircraft, was hit and took out the nosegear. The battered Beechcraft slid about 300 feet before coming to a halt, and even though the pilots had feathered the engines right after impact, the collapsed nosegear permitted the props to chew themselves up pretty thoroughly on the runway surface. Seems the deer with a death wish was part of a herd of about 50 that roam the air base and nearby woods, periodically venturing onto the runway. Game wardens at Ramstein are currently making an intensive effort to get the deer off the base, but their intermittent intrusions remain a hazard to aircraft.

Note: Eglin AFB, Florida, Pease AFB, New Hampshire, and several other bases both stateside and overseas have similar problems with uninvited venison on the hoof.



How to Become an Old Pilot



Be Suspicious: Don't take anything on trust. Ask.
Be Prepared: Know your emergency procedures. Assume you *will* lose an engine at a critical phase of flight; know in advance what you can do. Assume your destination weather *will* be below minimums; know what you will do and where you will go.
Be Professional: No one ever flies as well as they ought to all the time. You can always do better. Stick to your standard operating procedures. If you deviate, know why and what you are doing. If you are not happy with the approach, carry out a missed approach procedure. You *are* a professional.
Don't Be Overconfident: The day you have all the answers, either retire or start worrying. Nobody has all the answers; we all have something to learn.
Don't Be Afraid to Admit an Error: No one is perfect. If you think you have made a mistake, report it. You may be helping someone else avoid the same error.

–National Airlines *Stabilizer*

Light Up Your Flight

As a Boeing passenger jet was being flown to an alternate airfield after the original destination became weathered in, the aft-cargo-compartment-fire warning light came on and the warning bell sounded. One extinguisher bottle was discharged and the emergency checklist performed. A while later, after the second bottle was discharged, the light went out only to come back on in a few minutes and remain on for the remainder of the flight. After landing, all passengers were evacuated without injuries using the emergency escape slides.

The smoke in the aft cargo compartment was coming from a bulk cargo package. Further investigation revealed the package had been placed next to a dome light with a lens missing, which allowed heat from the bulb to ignite the packing material. This is not the first time that lensless lights have caused trouble. In a similar incident, a smoldering sleeping bag was found pushed against a service light with a missing lens.

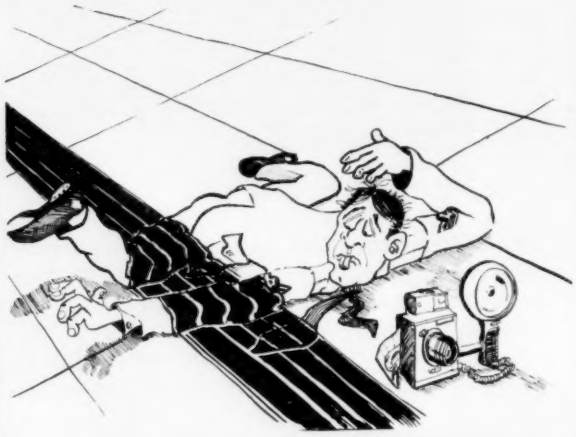
Quick Stoppers

Perilous Parking

Some cues that should have lit the lights of caution but went unheeded led to this recent taxi mishap. A C-141 was being marshalled into a parking spot at night, which required a 270-degree right turn that took it between two other Starlifters. The crew expertly maneuvered their big airlifter through the opening with the help of non-MAC wing walkers. Having passed through the darkened needle's eye with only ten feet to spare on each side, the crew breathed a little easier as they made the last few degrees of turn. With the tight squeeze behind them, nobody noticed their left wing fast approaching a 44-passenger bus parked alongside the ramp. The wing tip struck the vehicle, damaging both the wing and right roof area, windshield and passenger entry door of the bus. Just goes to show that you can't relax as long as the aircraft is in motion.

Too Close For Comfort

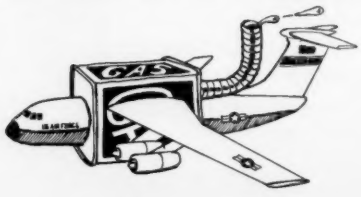
A commercial 747 jetliner swerved off the runway during a takeoff in Germany, and the nosegear collapsed. Next day, during the non-USAF recovery operation, an eager Air Force fotog was seriously injured while recording the proceedings on film. Apparently trying to get a super dramatic close-up of the action, the unlucky lensman got in the way and the main landing gear wheels of the jumbo jet ran over his right arm and leg, earning him a quick trip to the nearest hospital for emergency surgery.



Flying Bomb

Gasoline fumes mixed with air create one of the most explosive concoctions there is. Any spark or flame can set it off with a destructive force equivalent to dynamite. It's little wonder then, that aircrews get very uptight when they find themselves flying an airplane that has suddenly become an airborne bomb because of fuel leaking from cargo. The safety folks who have to report these incidents also get very uneasy contemplating the potential results of inflight fuel spills, especially when all the paperwork indicates that the piece of cargo was properly prepared for air shipment. One example illustrates some common problems occurring in a rash of recent incidents.

A jeep was fueled for convoy from a remote exercise site to an air base over 100 miles away where it was to be flown back to its home station. About a mile from the starting point, however, the four-wheeler broke down. It was loaded on a flatbed and trucked the rest of the way.



Upon arrival at the base, the convoy leader failed to inform ALCE personnel of the vehicle's full gas tank. ALCE load personnel didn't verify the fuel level before it was delivered to the aircraft for loading and the aircrew loadmaster didn't check the fuel level when the jeep was delivered to his aircraft. Right after takeoff, gasoline began streaming from the filler cap and quickly filled the cargo compartment with explosive vapors. The crew made an emergency return to the field, a safe landing was executed and the hazardous cargo removed. One little spark could have caused a far different ending to the whole affair.

AFTER DEADLINES

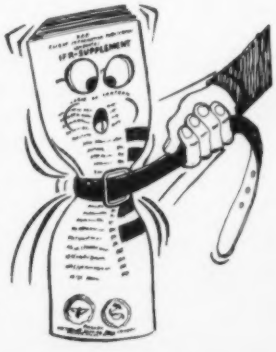
AMERICANS TAKE TOP AWARDS AT HERCULES TATTOO during the international air show at RAF Greenham Common, U.K. Maj James Perkinson, 118 TAW (Tennessee ANG), was picked as outstanding navigator, and SMSgt Robert L. Keitt, 317 TAG, Pope AFB, NC, took the award for outstanding Hercules flight engineer. In the contest for the Concours D'Elegance trophy for the best turned-out C-130, a Ski Hercules from the New York ANG and an E-model from Pope AFB shared honors as runners-up.

TWO SHOCKING EXPERIENCES CAUSED C-141 GALLEY OVENS to be disconnected temporarily. In both cases, shorts in the oven heating element sent 115-volt AC current through a crewmember. Although neither was seriously injured, the circuit breakers for the oven have been pulled until the new fiberglass galleys can be adequately grounded.

THE GERMAN FEDERAL SUPREME COURT has ruled that motorists injured in a vehicle accident who didn't use seat belts are guilty of negligence and must accept a reduction of any claim for damages, even if the accident was not their fault. This does apply to U.S. Forces and dependents in the Federal Republic of Germany.

CCT SCHOOL GETS AMENDMENT TO ORDERS. Instead of Charleston, the school will be set up at Pope AFB, NC. Pope offers the controllers better assault and drop zones along with easy access to amphibious and field training facilities. MAC also expects to net savings on training time and money as noted in the Flyer's July "After Deadlines" which relayed the original announcement that the move would be to Charleston.

IFR-SUP HAS BEEN PUT ON A REDUCING PLAN by AFCS folks at the direction of the Air Staff. The September issue of the supplement will take on the proportions of a quick reference book instead of the general encyclopedia it has resembled in the past. The aerodrome remarks section has been purged of "unnecessary" data, most of which has been placed in the "FLIP Area Planning North and South America." Reducing the Enroute Supplement is expected to help cut FLIP program costs and make the book more manageable in the cockpit.



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